

# Making the Case for Transit: WMATA Regional Benefits of Transit

## Executive Summary



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# Acknowledgements

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## Executive Summary

With Metro, the region works. Without Metro, the region would be less wealthy, harder to get around, and have less economic activity. Families would spend more getting around.

Without Metro, the Capital Region could not easily serve constituents from across the country, and would not function as the world-class capital that the United States needs and deserves.

Metro provides local, regional, and national benefits that extend beyond traditional measures of mobility. This report details Metro's critical role in the Capital Region: the benefits Metro brings to the region's economy and to its ability to function smoothly as the capital of the United States.

This report details the benefits that Metro delivers to the Capital Region. This Executive Summary summarizes the findings. The body of the report details the methodologies used and discusses the results in more detail.

I. Metro is an outstanding investment of public funds and is vital to the Capital region's economy

*1. Metro boosts property values—adding 6.8% more value to residential, 9.4% to multi-family, and 8.9% to commercial office properties within a half-mile of a rail station.*<sup>1</sup> Property becomes significantly more valuable as a property gets closer to Metrorail stations.

*2. The demand for locations near Metrorail stations produces approximately \$133M (¼ mile) to \$224M (½ mile) in additional revenues from property taxes due to the premium associated with properties located near rail stations.*<sup>2</sup>

The real estate located within ½ mile and ¼ mile of Metrorail stations generated approximately \$3.1B and \$1.8B in property tax revenues for the Compact Area in 2010, respectively.<sup>3</sup>

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<sup>1</sup> Based on a series of hedonic regressions of data compiled from GIS shapefiles obtained from either the real estate assessor's office or department of tax administration.

<sup>2</sup> Estimate based on premium analysis of parcel assessment data from Compact Area jurisdictions, property tax rates for the local jurisdictions, Business Improvement Districts, and federal government payments to the District for courts, defender services, and offender supervision. Additionally, the ½ mile revenues include the ¼ mile revenues.

<sup>3</sup> Estimate based on GIS analysis of parcel assessment data from Compact Area jurisdictions, property tax rates for the local jurisdictions, Business Improvement Districts, and federal government payments to the District for courts, defender services, and offender supervision. The ½ mile revenues include the ¼ mile revenues.



Within a ½ mile of Metrorail stations: DC collected \$2.26B, Virginia collected \$470M, and Maryland collected \$355M. While within a ¼ mile of Metrorail stations, DC collected \$1.37B, Virginia collected \$290M, and Maryland collected \$124M.

The value of real estate located within a ½ mile of Metrorail stations represents 27.9% of the Compact Area's tax base on 4% of its land, including 68.1% for DC, 15.3% for Virginia, and 9.9% for Maryland. <sup>4</sup>

#### New Metro(rail) station produces new jobs and private investment

"Prior to the addition of the New York Avenue Metro(rail) Station, the Washington, DC, Metro system bypassed an urban, economically underdeveloped neighborhood known as NoMa, for its location north of Massachusetts Avenue. NoMa enjoyed good regional location and road access, but lacked good rail access. The opening of the Metro(rail) station dramatically changed the area.

Assessed valuation of the 35-block area increased from \$535 million in 2001 to \$2.3 billion in 2007. Over 15,000 jobs have been created since 1998 with \$1.1 billion in private investment. This increase in property values (300 percent between 2001 and 2007) has attracted further real estate development and residents."

– National Council on Public Private Partnerships (NCPPT), Case Study: New York Avenue Metro(rail) Station, Washington DC<sup>5</sup>

### *3. Metro supports businesses, so businesses locate near Metro.*

Economic activity tied to Metro's presence is critical to the economic success of the region. Businesses locate near Metrorail stations because it expands their pool of employees and their pool of customers.

Metro knits the region into a whole, enabling employment, shopping, and entertainment across communities, which would be impossible with roads alone.

<sup>4</sup> GIS analysis of parcel assessment data and total jurisdiction assessment values

<sup>5</sup> NCPPT, "New York Avenue Metro Station, Washington DC", [www.ncppp.org/cases/nystation.shtml](http://www.ncppp.org/cases/nystation.shtml).



“We have come a long, long way from the bad old days of a deserted, dilapidated and dangerous downtown during the evening hours and few destination retail and entertainment neighborhoods. The establishment and growth of vibrant areas such as Penn Quarter, Ballston, U/14th Street Corridors are directly attributable to transportation access for patrons, visitors and employees.”

– Claude Andersen, Metropolitan Washington Restaurant Association<sup>6</sup>

#### *4. Metro saves families \$342 million per year in car operating expenses.*

Even as property values increase near Metro, Metro reduces total household expenses by reducing transportation costs. Annual savings from lower car operation costs to families living near Metrorail stations and/or bus corridors is \$342 million (\$2010) annually.<sup>7</sup>

## II. Metro serves people from across the country and is vital to a Capital Region that works

Metro carries millions visiting their representatives, their government, and their history. Thanks to Metro, Americans from around the country can easily visit Congressional offices, visit the Monumental Core, and move in and out of town without a car.

Metro benefits the nation by supporting a Capital Region that works. The region’s remarkable density of public and private offices, close to Congress and the White House, is made possible by Metro. In the absence of Metro, the parking necessary to accommodate federal workers alone would cover downtown.

Similarly, the roads necessary to accommodate those who use Metro would have fundamentally changed the character and look of the region.

Without additional roads, congestion in the region would be significantly higher, discouraging investment, sapping budgets, and interfering with the efficient functioning of all parts of the government.

One in 10 Metrorail trips begins or ends at a station adjacent to the U.S. Capitol or the Pentagon.<sup>8</sup>

<sup>6</sup> Letter to WMATA Board, April 2, 2010

<sup>7</sup> Based on estimated VMT avoided from the MWCOG Version 2.3.17 Regional Travel Demand Model with Round 8.0 Land Use and variable per mile costs of auto use from AAA’s Your Driving Costs, 2010. These savings do not include vehicles that would have to be purchased by zero-car households.



## 5. Metro serves people from across the country

Every year, Metro transports more than 8 million Americans visiting the nation's capital.<sup>9</sup>

Metro's highest ridership days are days on which special events occur on the National Mall. Rail ridership on the day of President Reagan's memorial service in 2004 was over 850,000.<sup>10</sup> On Inauguration Day 2009, Metro provided 1,120,000 rail trips, 423,000 bus trips, and 1,721 MetroAccess trips for a total of 1,544,721 trips.<sup>11</sup>

Special events in the area relied on Metrorail alone for over 3.5 million passenger trips during 2010. A few of the major events relying on Metrorail in 2010:<sup>12</sup>

- Annual Cherry Blossom Festival, drawing visitors from around the world: 300,000 to 500,000 trips
- July 4th celebration: over 580,000 trips
- October Marine Corps Marathon: over 60,000 trips
- Sporting events all year for the Nationals, Redskins, Capitals, Wizards, Mystics, and DC United: almost 1.5 million trips.

2010 was typical; Metro enables a wide variety of events that would otherwise be difficult or impossible to serve. Further, Metro enables the region to host more than one large event at a time, as befits its role as a world-class city. For example, on July 11, 2008, Metrorail carried 854,638 people, the day of the Women of Faith Conference and a Nationals baseball game.

## 6. Metro moves federal workers

35% of the weekday trips on Metrorail are made by federal employees: 249,087 trips.<sup>13</sup> Building parking to accommodate those employees would cost the taxpayers approximately \$2.4 billion for below ground parking (\$2010).<sup>14</sup>

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<sup>8</sup> WMATA, 2004 WMATA Strategic Alliances and Risk Assessment Program

<sup>9</sup> Calculation based on the 2007 WMATA Rail Survey

<sup>10</sup> 2004 WMATA Strategic Alliances and Risk Assessment Program

<sup>11</sup> Metro, "Metrorail sets new record for highest ridership day of all time", press release, January 20, 2009. [http://www.wmata.com/about\\_metro/news/PressReleaseDetail.cfm?ReleaseID=2439](http://www.wmata.com/about_metro/news/PressReleaseDetail.cfm?ReleaseID=2439)

<sup>12</sup> WMATA estimation of ridership from special events..

<sup>13</sup> 2007 Metrorail Passenger Survey

<sup>14</sup> Assumes 327 SF per parking space (the average for all WMATA parking facilities, including parking, curves, ramps, etc. and uses average SF construction costs for underground parking garages from RS Means (2007). In addition, it is important to note that not all spaces would have to be built because some portion could be accommodated by excess capacity at existing garages or lots. However, the occupancy rates of current parking facilities in the DC and Arlington Cores is unknown.



The federal government is the largest employer in the region. Almost one half of peak period riders are commuting to or from federal jobs, and, at other times of the day, federal employees use Metro to take care of government business.<sup>15</sup>

Metro is a critical recruitment and retention tool for federal employers. Approximately 170,000 federal employees use the Metrocheck federal transit benefit program<sup>16</sup>; this is 45% of the region's 375,000 federal workers.

### *7. Metro makes room for the historic and productive parts of the region*

Without regional transit (not just Metro), the region would need to add over 1,000 lane-miles of arterials and highways to maintain current travel speeds, assuming people kept choosing the same destinations—this length is equivalent to adding more than 15 lanes to the entire circumference of the Capital Beltway.<sup>17</sup> Many bridges would require 2 or 3 additional lanes in each direction.

710 of those miles would be necessary to directly replace Metro service. Estimated capital cost of those new lanes: \$4.7 billion (\$2010).<sup>18</sup> The other 300 miles of new highway would be needed to replace other regional transit—transit whose ridership would almost certainly drop significantly without Metro. For example, MARC service to Union Station would lose substantial ridership without Metro, so that even if MARC existed without Metro, many current MARC riders would be on the road.

Those new cars would require parking spaces: roughly double the number of current spaces in the DC and Arlington cores.<sup>19</sup> Capital cost of additional parking is \$2.9 billion for below-ground parking (\$2010).<sup>20</sup> Since the core is essentially built out, new parking would require razing buildings—removing tax base and employment.

The region's economic and population growth potential is constrained by its ability to move people and goods. As the area has limited space available in which to expand roads, future growth will depend on continued capacity growth in the Metro system.

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<sup>15</sup> WMATA, "2004 WMATA Strategic Alliances and Risk Assessment Program"

<sup>16</sup> WMATA, "2004 WMATA Strategic Alliances and Risk Assessment Program"

<sup>17</sup> Estimated by the MWCOG Version 2.3.17 Regional Travel Demand Model with 8.0 Land Use

<sup>18</sup> Uses average road and bridge construction costs per mile for the region. These costs do not include right-of-way purchases or the purchase of vehicles that would be required for some zero-car households.

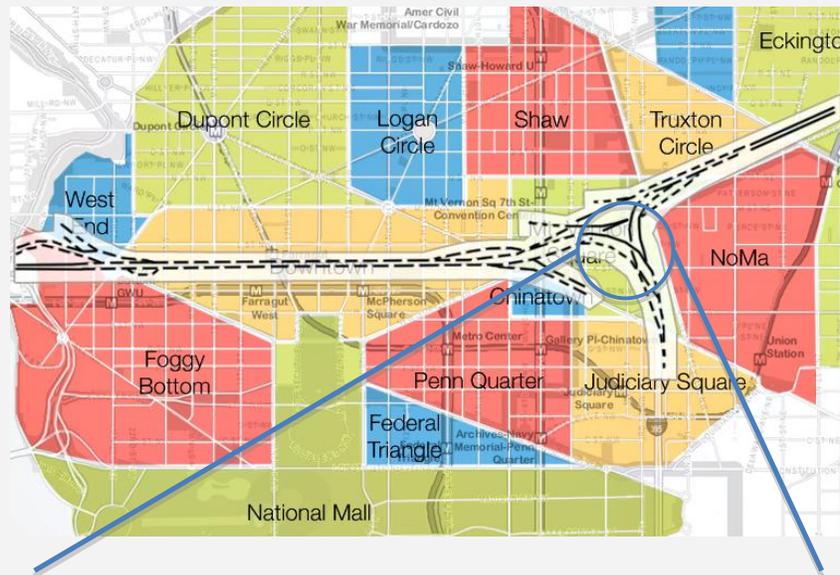
<sup>19</sup> Estimated by the MWCOG Version 2.3.17 Regional Travel Demand Model with 8.0 Land Use

<sup>20</sup> Assumes 327 SF per parking space (the average for all WMATA parking facilities, including parking, curves, ramps, etc. and uses average SF construction costs for underground parking garages from RS Means (2007). This cost of additional parking includes the parking costs associated with federal employees reported earlier. It is not in addition to the federal parking costs. In addition, it is important to note that not all spaces would have to be built because some portion could be accommodated by excess capacity at existing garages or lots. However, the occupancy rates of current parking facilities in the DC and Arlington Cores is unknown.

## Building Metro allowed and produced economic development

Plans in the 1970s to improve access to the core included building interstates directly through the city. The region chose to use Metro to provide that access rather than take land for highways. Where there would have been highways, thriving neighborhoods now exist.

Without Metro: access with highways puts an interchange at Mount Vernon Square.



With Metro: Live, work, play.



In particular, much of the Mount Vernon Square neighborhood would have been lost to a large interchange. At the time, the interchange would have displaced 845 dwelling units and 97 commercial and industrial firms employing 980 people.

As the area has developed, north of New York Avenue, we now have a neighborhood of row houses, small apartment buildings, and churches. The sidewalks are brick and shadowed by tall trees. On New York Avenue, we have several restaurants, bars, and a car mechanic.



The City Vista block (east of 5th, between L and M) would have been parking above the freeway. Thanks to Metro, we instead have a vibrant development: apartments, condominiums, a large Safeway, a mobile phone store, a bank, a hardware store, a variety of restaurants (some with outdoor seating), a gym, and a Starbucks. A farmer's market has opened up a block away. It is a half to three-quarters of a mile to three subway stations, and only a mile to a fourth: Union Station where you can also connect to the Amtrak lines going all up the east coast.

In short, this is a great neighborhood with lots of variety and everything its residents need. Had the region chosen the freeway instead of Metro, we would have lost this neighborhood and its contributions to employment, taxes, and quality of life.

Sources: Map and description of displacement adapted from "District of Columbia Interstate System 1971," November 1971, De Leuw, Cather Associates and Harry Weese & Associates, Ltd. City Vista photo: Sean Robertson.

### *8. Transit saves the Capitol region almost 148,000 hours/day from being lost to traffic congestion.<sup>21</sup>*

If the more than 1 million daily regional transit trips switched to driving, and roadways were not expanded, the region would initially experience at least a 25% increase in congestion during rush hours.

Over time, people would respond to the congestion by shifting to destinations closer to home. Individuals would make fewer trips from town to town as households selected different locations in which to work, live, and play.

The regional economy would fragment, losing some of the benefits of its size. Opportunities for each resident, and each employer, would shrink, damaging residents' opportunities and employers' labor pools. The region overall would become far less competitive with other regions; in effect, rather than the entire region competing with, say, Boston, Fairfax would compete with Boston.

### III. Metro provides numerous other benefits

- *Public safety and emergency preparedness*

Metro provides an indispensable part of the Capital Region's emergency preparedness. On September 11, 2001, Metro facilitated the safe evacuation of hundreds of thousands of people; moving such numbers of people would not be possible without Metro.

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<sup>21</sup> Estimated by the MWCOG Version 2.3.17 Regional Travel Demand Model with 8.0 Land Use



- *Jobs and access to jobs*

- 14,900 direct and indirect jobs supported by Metro operations.<sup>22</sup>

“All of my 30 staff members depend on the Metro system to get to and from work.” “During snow storms, when Metro was closed, both guests and especially staff had a problem getting to the restaurants. My staff counts on Metro to get to work and to get home at the end of the night.” - Member survey

- 2.0 million jobs (or 54% of all regional jobs) are accessible within a ½ mile of Metrorail stations. 300,000 more jobs are accessible within 1 mile of Metrorail stations.<sup>23</sup>

- *Mobility*

- Metrorail carried 217 million trips in 2010, and Metrobus, 123 million trips.<sup>24</sup>

- About 20% of Metrorail riders and 53% of Metrobus riders are from zero-car households.<sup>25</sup>

- Metrobus serves a diverse population

4% of riders are Asian; 59%, Black/African American; 10%, Hispanic; 1%, Native American; 19%, White; and 2%, multi-racial.<sup>26</sup>

Household incomes vary widely: 19% of riders have an annual household income under \$10,000; 11%, \$10-20,000; 23%, \$20-40,000; 14%, \$40-60,000; 12%, \$60-100,000, and 9% over \$100,000.<sup>27</sup>

- Metro carries people for many purposes.

For Metrorail passengers, 83% of trips are to work/home, 4% are job-related, 5% are personal, 2% are school, 3% are shopping/meals, and 2% are sightseeing or recreational trips.<sup>28</sup>

For Metrobus, 73% of trips are to work/home, 3% are job-related, 12% are personal, 5% are school, 4% are shopping/meals, and 3% are sightseeing or recreational trips.<sup>29</sup>

<sup>22</sup> Direct jobs reported in WMATA's Proposed Fiscal 2012 Annual Budget, total jobs (direct+indirect+induced) estimated using RIMS II direct effect multipliers for the Transit and ground passenger transportation industry in the Washington, DC MSA (2002/2007)

<sup>23</sup> Employment data is based on Round 8.0 co-operative forecasts for 2007 and WMATA service based on MWCOC version 2.3 model for 2007.

<sup>24</sup> WMATA 2010 Metro Facts, [http://www.wmata.com/about\\_metro/docs/metrofacts.pdf](http://www.wmata.com/about_metro/docs/metrofacts.pdf)

<sup>25</sup> 2007 Metrorail Passenger Survey

<sup>26</sup> 2008 Regional Bus Survey.

<sup>27</sup> 2008 Regional Bus Survey.

<sup>28</sup> Trip purpose from 2007 Metrorail Passenger Survey



- *Fuel Savings*

Travel by Metro instead of auto saves 40.5 million gallons of fuel annually.

- *Cleaner air*

About 260 tons VOC, 22 tons PM, and 0.5 million tons of CO<sub>2</sub> are avoided in the region due to reduced auto use associated with all transit services in the region.<sup>30</sup> Taking into account the emissions associated with WMATA's services, the estimated monetary value of environmental savings is \$9.5 million (\$2010) annually.<sup>31</sup>

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<sup>29</sup> Trip purpose from 2008 Regional Bus Survey, for WMATA Routes only

<sup>30</sup> Estimate based on estimated VMT avoided from the MWCOG Version 2.3.17 Regional Travel Demand Model with Round 8.0 Land Use and emissions rates from WMCOG Air Quality Conformity Determination of the 2010 Constrained Long Range Plan and the FY 2011-2016 Transportation Improvement Program and the Sightline Institute.

<sup>31</sup> Calculation based on the 2007 WMATA Metrorail Passenger Survey